APPENDIX H
TO CONSENT DECREE

Description of the Yak Tunnel Costs Model

The purpose of the Yak Tunnel Costs Model (the "Yak Model") is to estimate, based on certain known costs and assumptions, the net present value of the operator's costs (e.g. labor, chemical, sludge disposal, repairs and replacements) to perform the OU1 Work for the next 100 years. The Yak Model is an excel workbook containing the tabs described below. These tabs summarize the model inputs and the formulae that were used to calculate the initial 100 year cost estimate and then present value that estimate back to year one of the model. These formulae will be used, with updated actual cost inputs or current projections as applicable, to update the present value calculation every five years, as described below and in Section XVII of the Consent Decree (Performance Guarantee for Work at OU1). The model attempts to use current data where possible to provide the most realistic estimate.

Tab	***Description***
2	Summary of Model Inputs
3	Operating and Maintenance Cost Model
4	Sludge Disposal Vendor Costs
5	Analysis of Chemical Usage
6	Payments for Chemicals
7	Analysis of February 2007 Contractor Labor
8	Resurrection Operating Labor
9	Analysis of Labor Costs ($)
10	Analysis of Gas and Electric: Xcel Energy
11	Plant Operations Reimbursable Field Supplies, Excluding Chemicals and Electricity
12	Summary of Contractor Total Costs by Month
13	Gallons Per Minute (Influent)
14	Monthly Flows (Gallons) from Water Sources at Yak Water Treatment Plant *Source: Appendix A from Monthly 8920 Reports to the EPA*
15	Total Gallon (Influent) *Source: Appendix A from Monthly 8920 Reports to the EPA*
16	Replacement Cost Analysis
17	Service Lives
18	Yak Blockage Pipeline and Pump Installation
Lookup Model Year	A reference sheet used in the formulae of the Replacement Cost Analysis
19	Miscellaneous Expenses

To calculate the 100 year cost estimate, actual costs were analyzed and future costs were estimated. Most of the Yak operating costs are incurred by an outside contractor that operates the plant, and are itemized on monthly bills. Some costs, such as sludge disposal, are paid

directly by Resurrection Mining Company ("Resurrection"). Tab 2 of the Yak Model contains a summary of the various model inputs (see Attachment 1). Those inputs are broken down into four overall groups:

1. Inflation and Discount Rates
2. Variable Costs
3. Fixed Costs
4. Other

1. Inflation and Discount rates -

   The parties have agreed that a 7% discount rate will be used to calculate the net present value of future estimated costs using the following formula:

   [(1+Inflation Rate) * (1+7%)] – 1.

   For the initial cost estimate a 2.7% inflation rate was used. Beginning with the first five-year update, the inflation rate will be computed by averaging the yearly average Consumer Price Index – All Urban Consumer (CPI-U), U.S. city Average, all items, as published by the U.S. Department of Labor, Bureau of Labor Statistics for the 100-year period immediately preceding the model update year, or the longest period of data available if less than 100-years of CPI-U data exists. In the event that the CPI-U ceases to be published or is materially altered, the parties shall mutually agree upon an alternative index comparable to the CPI-U.

2. Variable Costs –

   These are costs that vary based on the source and amount of influent processed at the YAK Water Treatment Plant. These include the costs for pumping, sludge disposal, electricity and chemical reagents.

3. Fixed Costs –

   These costs are not directly impacted by the amount of influent processed at the Yak Water Treatment Plant, but rather are of a more constant or fixed amount or represent the cost of repair / replacement of equipment that will be required in the normal course of operation. These include the costs for labor, property taxes, laboratory costs, miscellaneous costs, and maintenance and repair costs.

4. Other –

   Other important variables used in the Yak Model to project the costs to implement the Yak Tunnel remedy include the volume of influent (i.e. gallons per minute) that is expected to be processed at the plant (which may be different before and after the desired level of the water table is reached), the level to which the water table should be drawn down behind the current blockage and the source of the influent. This section contains estimates for these items.

Using the inputs contained in Tab 2, actual cost data contained in the Yak Model (e.g. Tabs 4, 5, 6, 7 etc.) or referenced by the model (e.g. Tabs 12, 17, 18 etc.) and standard projection and discounted cash flow formulae and methodology, computations were made of the operating and maintenance costs for the next 100 years and then discounted back to year one. The results of those computations discounted back to year one are contained in and summarized in Tab 3 - Operating and Maintenance Cost Model.

The Consent Decree provides that the net present value to perform the OU1 Work for 100 years will be reevaluated at least every five years or earlier as provided in the Consent Decree. To perform this reevaluation, the actual operation and maintenance costs that were incurred since the previous review (or a projection, as appropriate) will be input to the Yak Model to calculate the net present value to perform the OU1 Work for the next 100 years.

If any party believes that an actual cost input reflects an anomalous condition that is not reflective of anticipated future costs, that party may provide data and analysis to rebut the use of actual cost input value(s). If the parties cannot agree on the appropriate input value(s), the dispute will be resolved pursuant to Section XXV of the Consent Decree (Dispute Resolution). The party proposing to deviate from using the actual costs incurred since the previous review will have the burden of proof to demonstrate that those costs do not reasonably reflect future anticipated costs.

As stated above, Tab 2 contains a summary of the various categories of cost inputs that are used to calculate the 100 year estimate. The model inputs include yearly inflation rates and discount rates, which are used to project costs into the future and then discount those costs back to year one. Updated information that will be input for the updated model runs will be collected from four primary sources:

1. Monthly Operating Reports
2. Contractor Monthly Billings
3. Resurrection General Ledger Data
4. Updated Information for the Replacement Cost Analysis (Tab 16)

1. Monthly Operating Reports-

   The Monthly Operating Reports contain various data elements that were used to develop the original cost estimates contained in the Yak Model. To complete the five (5) year updates and calculate the next 100 year estimate, the Monthly Operating Reports for the intervening period should be reviewed to accumulate the following information:

   a. Sludge Generated (see Tab 4)

   b. Chemicals used (see Tab 5)

   c. Gallons Per Minute - Influent by Source (see Tab 14)

   d. Total Gallons – Influent (see Tab 15)

2. Contractor Monthly Billings –

   A sample template for input of all the cost categories contained on the contractor's current monthly billings is included as Attachment 2 to this Appendix. For the five (5) year updates, actual contractor costs should be gathered by month at this level of detail. To the extent that new cost categories for implementing the OU1 remedy are found on the contractor's bills, those should be added to the template so that all applicable costs on each of the contractor's bills are captured and accumulated in the template. This information is necessary to evaluate the cost estimates for certain costs included in the Yak Model (e.g. Plant Labor, Other Operations, Maintenance, etc).

3. Resurrection General Ledger Data –

   A sample template for input of the applicable operating and maintenance costs contained on Resurrection's general ledger accounts is included as Attachment 3 to this Appendix. As part of the five (5) year updates, the cost inputs included in this template will be acquired for each month during the intervening period. To the extent that new accounts for Yak operating or maintenance costs are found in Resurrection's General Ledger, those will be added to the template so that all costs are captured and accumulated in the template. This information is necessary to evaluate the costs estimates for certain costs included in the Yak Model (e.g. Sludge Disposal, Labor, etc).

4. Updated Information for the Replacement Cost Analysis (Tab 16) –

   In connection with the development of the Yak Model, an equipment listing was prepared, including all significant pipe and equipment necessary to operate the plant. This listing was used as a basis of the "Replacement Costs Analysis" (Tab 16). A yearly replacement cost estimate was developed based on the equipment listing, current age of

equipment, estimated useful lives, estimated replacement costs and inflation factors. As part of the five (5) year updates, this schedule (Tab 16) will be reviewed to determine what changes, additions or deletions, if any, are required to estimate and adjust the replacement cost estimate for the next 100 year model period based on actual operating experience during the intervening period.

Attachment 1
to Appendix H

Yak WTP Operating Costs Model
Summary of Inputs

Description of Variable	Input Values	Basis for Five Year Update: Volume Basis	Basis for Five Year Update: Pricing Basis
Inflation			
- Capital Items	2.70%	Average of the CPI Indexes for the Immediately preceding 100 year CPI Indexes	
- Electricity	2.70%		
- Labor	2.70%		
- Other Operating Costs	2.70%		
Discount Rate, Year 1		Computed using the agreed upon forumla of: [(1+Inflation Rate) * (1+7%)] - 1	
Discount Rate, Year 2			
Discount Rate, Years 3 and 4			
Discount Rate, Years 5 and 6			
Discount Rate, Years 7 through 9			
Discount Rate, Years 10 through 19			
Discount Rate, Years 20 through 29			
Discount Rate, Years 30 on			
Variable Costs:			
Cost of Sludge per 1,000 Gallons of Influent, Blockage Reduction Period	$ 0.37075197	5 yr volume weighted ave	Current
Cost of Sludge per 1,000 Gallons of Influent, Post Blockage Reduction Period	$ 0.37075197	5 yr volume weighted ave	Current
Cost of Electricity per 1,000 Gallons of Influent	$ 0.40989505	5 yr volume weighted ave	
Cost of Chemicals per 1,000 Gallons of Influent	$ 0.34723290		
Fixed Costs:			
Plant Operations Labor Per Day--Blockage Reduction Period	$ 926	Projection or Current Hour estimate	Current Actual Rates
Estimated Labor Savings Per Day	$ 159		
Plant Operations Labor Per Day--Post Blockage Reduction Period	$ 767		
Resurrection Operations Labor Per Month--Blockage Reduction Period	$ 1,000		
Resurrection Operations Labor Per Month--Post Blockage Reduction Period	$ -		
Other Plant Operations Costs Per Month	$ 2,200	5 year average	
Plant Maintenance Labor Per Day	$ 147	5 year average	
Plant Replacement	See "Tab 16"		
Property Tax (per year)	$ 2,200	5 year average	
Laboratory Costs (per year)	$ 10,788		
Miscellaneous Expense (per month)	$ 3,123		
Other:			
Total Flow Blockage Reduction Period Flow (Gallons Per Minute)	800	Projection or Current Volume Estimate	
Total Flow Post Blockage Reduction Period Flow (Gallons Per Minute)	650		
Enter "1" for 150 ft or enter "2" for 0 ft	2		

Model Input - 150ft
Model Input - 0ft

Attachment 2
to Appendix H

Monthly Data Input

Instructions: Enter total for the month on the line provided
(one line per expense type.)

From Resurrection General Ledger

GL Account Number	Description	Year 1 Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Total
792000.111	Salary/Yak WTP O&M													-
792000.112	Salary OT/Yak WTP													-
792000.115	Burden/Yak WTP Maint													-
792000.212	Chemicals/Yak WTR O&M													-
792000.251	Fuel/Yak WTR Treatment Plant													-
792000.305	Splys/Yak WTP O&M													-
792000.308	Parts/Yak WTP O&M													-
792000.309	Pipe/Yak WTP O&M													-
792000.414	Electricity/Yak WTP O&M													-
792000.422	Other Utilities/Yak WTR O&M													-
792000.445	Contr Srvc/Yak Wtr Trtmnt Plnt													-
792000.447	Copies/Yak WTP O&M													-
792000.448	Maint/Yak WTP O&M													-
792000.471	Lease/Yak WTP O&M													-
792000.517	Courier/Yak Wtr O&M													-
792000.523	Permit/Yak Wtr Trtmnt Plant													-
792000.525	Phone/Yak Wtr O&M													-
792000.531	Travel/Yak WTP													-
792000.532	Meals/WTP O&M-Yak Wtr Mngmnt													-
793000.445	Contr Srvc/Sludge Management													-

Key:
Ties directly to model
Does not tie directly (not used anymore) included for observation

	Total Resurrection Operating Labor	-	-	-	-	-	-	-	-	-	-	-	-	-

Attachment 3
to Appendix H

Monthly Data Input

Instructions: Enter total for the month on the line provided (one line per expense type.)

From MFG Monthly Bill

Category	Description	Type	Year 1 Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Total
Administration Fee	Administration Fee	Administration Fee													-
Oregon Gulch	Reimbursables	Field Supplies													-
Oregon Gulch	Reimbursables	Personal Vehicle													-
Oregon Gulch	Reimbursables	Taxi/Prkg/Misc													-
Phase 1	MFG Equipment	MFG - Inhouse Equipment Rental													-
Phase 1	MFG Equipment	MFG - MFG Trucks 4X4													-
Phase 1	MFG Equipment	SM - Inhouse Equipment Rental													-
Phase 1	MFG Equipment	SM - SM Trucks 4X4													-
Phase 1	Outside Services	Equipment Rental													-
Phase 1	Outside Services	Subcontractors - Other													-
Phase 1	Professional Services	AutoCAD II													-
Phase 1	Professional Services	Project Assistant													-
Phase 1	Professional Services	Project III													-
Phase 1	Professional Services	Senior Consultant													-
Phase 1	Professional Services	Senior I													-
Phase 1	Professional Services	Senior II													-
Phase 1	Professional Services	Senior Staff													-
Phase 1	Professional Services	Staff I													-
Phase 1	Professional Services	Staff II													-
Phase 1	Reimbursables	Equipment Rental													-
Phase 1	Reimbursables	Field Supplies													-
Phase 1	Reimbursables	Lodging													-
Phase 1	Reimbursables	Meals & Per Diem													-
Phase 1	Reimbursables	MFG - Inhouse Field Supplies													-
Phase 1	Reimbursables	Personal Vehicle													-
Phase 1	Reimbursables	SM - inhouse Office Supplies													-
Phase 1	Reimbursables	Taxi/Prkg/Misc													-
Phase 1	Reimbursables	Telephone & Fax Charges													-
Phase 1	Reimbursables	Vehicle Rental													-
Plant Equipment	Professional Services	Senior I													-
Plant Equipment	Professional Services	Senior Staff													-
Plant Equipment	Professional Services	Staff II													-
Plant Equipment	Reimbursables	Field Supplies													-
Plant Equipment	Reimbursables	Office Supplies													-
Plant Equipment	Reimbursables	Telephone & Fax Charges													-
Plant Maintenance	Outside Services	Consulting Services													-
Plant Maintenance	Outside Services	Equipment Purchase													-
Plant Maintenance	Outside Services	Equipment Rental													-
Plant Maintenance	Outside Services	Subcontractors - Other													-
Plant Maintenance	Professional Services	Staff II													-
Plant Maintenance	Professional Services	Technician I													-
Plant Maintenance	Professional Services	Technician II													-
Plant Maintenance	Professional Services	Technician IV													-
Plant Maintenance	Reimbursables	Airfare													-
Plant Maintenance	Reimbursables	Field Supplies													-
Plant Maintenance	Reimbursables	Lodging													-
Plant Maintenance	Reimbursables	Meals & Per Diem													-
Plant Maintenance	Reimbursables	Office Supplies													-
Plant Maintenance	Reimbursables	Shipping & Delivery													-
Plant Maintenance	Reimbursables	Taxi/Prkg/Misc													-
Plant Maintenance	Reimbursables	Telephone & Fax Charges													-
Plant Maintenance	Reimbursables	Vehicle Rental													-
Plant Management	MFG Equipment	MFG - MFG Trucks 4X4													-
Plant Management	MFG Equipment	Personal Vehicle													-
Plant Management	MFG Equipment	SM - Inhouse Equipment Rental													-
Plant Management	MFG Equipment	SM - SM Trucks 4X4													-
Plant Management	Outside Services	Consulting Services													-
Plant Management	Outside Services	Remediation Services													-
Plant Management	Outside Services	Subcontractors - Other													-
Plant Management	Professional Services	AutoCAD II													-
Plant Management	Professional Services	Project Assistant													-
Plant Management	Professional Services	Project II													-
Plant Management	Professional Services	Project III													-
Plant Management	Professional Services	Senior Consultant													-
Plant Management	Professional Services	Senior I													-
Plant Management	Professional Services	Senior II													-
Plant Management	Professional Services	Senior Staff													-
Plant Management	Professional Services	Staff I													-
Plant Management	Professional Services	Staff II													-
Plant Management	Reimbursables	Field Supplies													-
Plant Management	Reimbursables	Lodging													-
Plant Management	Reimbursables	Meals & Per Diem													-
Plant Management	Reimbursables	Office Supplies													-
Plant Management	Reimbursables	Personal Vehicle													-
Plant Management	Reimbursables	Taxi/Prkg/Misc													-
Plant Management	Reimbursables	Vehicle Rental													-
Plant Operation	Outside Services	Consulting Services													-
Plant Operation	Outside Services	Equipment Purchase													-
Plant Operation	Outside Services	Equipment Rental													-
Plant Operation	Outside Services	Laboratory Services													-
Plant Operation	Outside Services	Remediation Services													-
Plant Operation	Outside Services	Subcontractors - Other													-
Plant Operation	Professional Services	Project Assistant													-
Plant Operation	Professional Services	Staff II													-
Plant Operation	Professional Services	Technician I													-
Plant Operation	Professional Services	Technician II													-
Plant Operation	Reimbursables	Field Supplies													-
Plant Operation	Reimbursables	Health & Safety Supplies													-
Plant Operation	Reimbursables	Lodging													-
Plant Operation	Reimbursables	Meals & Per Diem													-
Plant Operation	Reimbursables	Office Supplies													-
Plant Operation	Reimbursables	Permits & Licenses													-
Plant Operation	Reimbursables	Seminars & Education													-
Plant Operation	Reimbursables	Shipping & Delivery													-
Plant Operation	Reimbursables	Telephone & Fax Charges													-
Plant Operation	Reimbursables	Vehicle Rental													-
Site Checks	Professional Services	Staff II													-
Site Checks	Professional Services	Technician I													-
Site Checks	Professional Services	Technician II													-
Site Checks	Professional Services	Technician IV													-
Site Checks	Reimbursables	Shipping & Delivery													-
Sludge Handling	Professional Services	Staff II													-
Sludge Handling	Professional Services	Technician I													-
Sludge Handling	Professional Services	Technician II													-
Sludge Handling	Professional Services	Technician IV													-
Sludge Handling	Reimbursables	Lodging													-
Sludge Handling	Reimbursables	Meals & Per Diem													-
Sludge Handling	Reimbursables	Personal Vehicle													-
Sludge Handling	Reimbursables	Telephone & Fax Charges													-
Surge Pond or Yak Maintenace	Outside Services	Subcontractors - Other													-
Surge Pond or Yak Maintenace	Professional Services	Staff II													-
Surge Pond or Yak Maintenace	Professional Services	Technician I													-
Surge Pond or Yak Maintenace	Professional Services	Technician II													-
Utilities	Outside Services	Equipment Rental													-
Yak Blockage Pumping	Outside Services	Subcontractors - Other													-
Yak Blockage Pumping	Professional Services	Senior I													-
Yak Blockage Pumping	Professional Services	Senior II													-
Yak Blockage Pumping	Reimbursables	Airfare													-
Yak Blockage Pumping	Reimbursables	Field Supplies													-
Yak Blockage Pumping	Reimbursables	Lodging													-
Yak Blockage Pumping	Reimbursables	Meals & Per Diem													-
Yak Blockage Pumping	Reimbursables	Taxi/Prkg/Misc													-
Yak Blockage Pumping	Reimbursables	Telephone & Fax Charges													-
Yak Blockage Pumping	Reimbursables	Vehicle Rental													-
.		OTHER NOT LISTED (total)													-
		Total MFG Bill	-	-	-	-	-	-	-	-	-	-	-	-	-
		Total From Face of MFG Bill													
		DIFFERENCE	-	-	-	-	-	-	-	-	-	-	-	-	

Individual Vendors Needed (Include in totals above and sum here separately by Vendor)

Xcel Energy															-
Pete Lien and Sons															-
Ashland Specialty Chemicals															-
Drew Industries															-
Harcros Chemical Group															-

From Other Internal Sources

		Property Tax													-
		Laboratory Costs													-

From MFG Monthly EPA Report

		Total Influent (Gallons)													-
		Oregon Gulch Influent													-
		% Oregon Gulch													

Summary

	Professional Services	Total Labor	-	-	-	-	-	-	-	-	-	-	-	-	-
Oregon Gulch	Professional Services	Less: Oregon Gulch Labor	-	-	-	-	-	-	-	-	-	-	-	-	-
		Less: Plant Maintenance	-	-	-	-	-	-	-	-	-	-	-	-	-
		Less: Surge Pond or Yak Maintenance	-	-	-	-	-	-	-	-	-	-	-	-	-
		Operations Labor	-	-	-	-	-	-	-	-	-	-	-	-	-
		Electricity	-	-	-	-	-	-	-	-	-	-	-	-	-
		Additives	-	-	-	-	-	-	-	-	-	-	-	-	-
	This is a plug	**Other Plant Operations Costs**	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant Maintenance	Professional Services	Maintenance Labor	-	-	-	-	-	-	-	-	-	-	-	-	-
Surge Pond or Yak Maintenace	Professional Services	Surge Pond Maint. Labor	-	-	-	-	-	-	-	-	-	-	-	-	-
		Maintenance Labor	-	-	-	-	-	-	-	-	-	-	-	-	-
MFG Equipment		MFG Equipment	-	-	-	-	-	-	-	-	-	-	-	-	-
	Equipment Purchase	Equipment Purchase	-	-	-	-	-	-	-	-	-	-	-	-	-
	Equipment Rental	Equipment Rental	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant Maintenance	Outside Services	Consulting Services	-	-	-	-	-	-	-	-	-	-	-	-	-
Plant Maintenance	Outside Services	Subcontractors - Other	-	-	-	-	-	-	-	-	-	-	-	-	-
Surge Pond or Yak Maintenace	Outside Services	Subcontractors - Other	-	-	-	-	-	-	-	-	-	-	-	-	-
		External Cost of Replacments/Repairs	-	-	-	-	-	-	-	-	-	-	-	-	-